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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/798,789	03/11/2004	Peter Mullen	41826.8044US1	5629

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EXAMINER	
SINGH, RACHNA	
ART UNIT	**PAPER NUMBER**
2176	

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/798,789	MULLEN ET AL.	
	Examiner	Art Unit	
	Rachna Singh	2176	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4,6-23,25-43 and 45-47* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-2, 4, 6-23, 25-43, and 45-47* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *10/28/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This action is responsive to communications: Application filed 3/12/04; RCE filed 10/28/04.

2. Claims 1-2, 4, 6-23, 25-43, and 45-47 are pending. Claims 1, 9, 16, 25, 36, 40, 42, 46, and 47 are independent claims.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-2, 4, 6-23, 25-43, and 45-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mallgren et al., US 5,490,241, 2/6/96 (filed 8/24/90).

In reference to claim 1, Mallgren discloses an interactive computer graphics system for making precise drawings. Mallgren's computer-aided illustration system implements grids as a means to represent the geometry and provide a set of constraints. See column 5, lines 1-29. Mallgren's system teaches the following:

-A FrameObject variable within a Grid which contains information to display, edit, and print an illustration on a display.

-A FrameObject variable that contains top and bottom pointers which point to the top-most and bottom-most objects in a frame. These property pointers specify default properties that are applied to the newly created object. See column 10, lines 17-30.

Compare to ***"identifying a first object and a second object previously placed on the display within a band of a selected object as the selected object is dragged into a location on the display;"***

-Using a coordinate system transformation from an orthogonal coordinate system such that the position of the object has a horizontal and vertical direction based on the first object and second object that creates a upper right and lower left coordinate. See columns 10-11. Compare to ***"determining the placement of a first gridline aligned to the first object and a second gridline aligned to the second object; and"***

-A moving grid which moves in response to control point placement. See column 5, lines 31-48. In a moving grid, the origin takes the value of movingOrigin stored in the GridObject. See column 11, lines 30-34 and figure 21B. The cursor-control means for positioning a cursor on a display such that a new object can be placed in a manner that facilitates drawing in two dimensions and assisting in the editing of the illustration. Compare to ***"displaying at least one of the first gridlines and the second gridline in response to the selected object being dragged to the location, wherein the first gridline and the second gridline are operative to assist a user in repositioning the selected object on the display with equal spacing between the first object, the second object, and the selected object."***

Mallgren does not state that the selected object is dragged to the location while the gridline is displayed; however, he does disclose manipulating a control point which manipulates the new object's control point. It would have been obvious to a person of ordinary skill in the art at the time of the invention to drag an object to a location while

providing gridlines as a guide because Mallgren's control point takes into account the horizontal and vertical alignment of a new object while trying to place the object precisely within a display. Since the control point is used to align the new objects with previously drawn objects, it would have been obvious to a person of ordinary skill in the art at the time of the invention that manipulation of a control point of a new object is similar to the manipulation of the actual object since it is an attempt to optimally place the new object in an aligned position. See column 3, lines 14-36.

In reference to claim 2, Mallgren's system determines the constraints and alignment relative to where the artist is drawing and the object being drawn. See columns 5-6.

In reference to claim 4, Mallgren discloses the use of gravity which is used to snap objects onto the grid. See column 6, lines 17-65 and column 7, lines 1-5.

In reference to claims 6 and 7, Mallgren teaches the final module, Graphic Virtual Machine 1703, is coupled to Pro Illustrator Editor 1702 and serves as a graphic engine for system 100. It contains the functions for the storage of various graphical objects as well as transformations performed on those objects. Graphic Virtual Machine 1703 sends its output to an imager 1705, which converts the data into an appropriate format for either a printing or display output 1706, 1707. In the alternative, Graphic Virtual Machine 1703 can output to Illustrator Frame 1704, which is responsible for the storage of object properties. Portions of the geometry algorithms are contained in Graphic Virtual Machine 1703.

In reference to claim 8, Mallgren teaches determining the placement of an object using the topmost and bottommost object in the frame. Thus it uses a maximum of two objects. See column 10, lines 17-30.

In reference to claim 9, Mallgren teaches an interactive computer graphics system for making precise drawings. Mallgren's computer-aided illustration system implements grids as a means to represent the geometry and provide a set of constraints. See column 5, lines 1-29. Mallgren's system teaches the following:
-A FrameObject variable within a Grid which contains information to display, edit, and print an illustration on a display.
-A FrameObject variable that contains top and bottom pointers which point to the top-most and bottom-most objects in a frame. These property pointers specify default properties that are applied to the newly created object. See column 10, lines 17-30. Mallgren teaches creating new objects in alignment with previously drawn objects. See abstract. Compare to ***"identifying a first object. . .determining a likely destination of the selected object based on the present location of the first object and the second object, where the likely destination is located the distance below the first object;"***.
-A moving grid which moves in response to control point placement. See column 5, lines 31-48. In a moving grid, the origin takes the value of movingOrigin stored in the GridObject. See column 11, lines 30-34 and figure 21B. Compare to ***"indicating to the user of the drawing program the determined likely destination as the selected object is moved in the electronic drawing page"***.

Mallgren does not state that the selected object is dragged to the location while the gridline is displayed; however, he does disclose manipulating a control point which manipulates the new object's control point. It would have been obvious to a person of ordinary skill in the art at the time of the invention to drag an object to a location while providing gridlines as a guide because Mallgren's control point takes into account the horizontal and vertical alignment of a new object while trying to place the object precisely within a display. Since the control point is used to align the new objects with previously drawn objects, it would have been obvious to a person of ordinary skill in the art at the time of the invention that manipulation of a control point of a new object is similar to the manipulation of the actual object since it is an attempt to optimally place the new object in an aligned position. See column 3, lines 14-36.

In reference to claim 10, Mallgren discloses a moving grid which moves in response to control point placement. See column 5, lines 31-48. In a moving grid, the origin takes the value of movingOrigin stored in the GridObject. See column 11, lines 30-34 and figure 21B.

In reference to claim 11, Mallgren teaches a procedure for computing a horizontal and vertical line only. See column 17, lines 62-65.

In reference to claim 12, Mallgren discloses the use of gravity which is used to snap objects onto the grid. See column 6, lines 17-65 and column 7, lines 1-5.

In reference to claim 13, Mallgren teaches creating new objects in alignment with previously drawn objects. See abstract.

In reference to claims 14 and 15, Mallgren teaches the final module, Graphic Virtual Machine 1703, is coupled to Pro Illustrator Editor 1702 and serves as a graphic engine for system 100. It contains the functions for the storage of various graphical objects as well as transformations performed on those objects. Graphic Virtual Machine 1703 sends its output to an imager 1705, which converts the data into an appropriate format for either a printing or display output 1706, 1707. In the alternative, Graphic Virtual Machine 1703 can output to Illustrator Frame 1704, which is responsible for the storage of object properties. Portions of the geometry algorithms are contained in Graphic Virtual Machine 1703.

In reference to claim 16, Mallgren teaches an interactive computer graphics system for making precise drawings. Mallgren's computer-aided illustration system implements grids as a means to represent the geometry and provide a set of constraints. See column 5, lines 1-29. Mallgren's system teaches the following:

-A FrameObject variable within a Grid which contains information to display, edit, and print an illustration on a display.

-A FrameObject variable that contains top and bottom pointers which point to the top-most and bottom-most objects in a frame. These property pointers specify default properties that are applied to the newly created object. See column 10, lines 17-30. Compare to ***"while a selected object is being dragged in the drawing, searching the drawing . . .each side of the selected object;"***.

-A moving grid which moves in response to control point placement. See column 5, lines 31-48. In a moving grid, the origin takes the value of movingOrigin stored in the

GridObject. See column 11, lines 30-34 and figure 21B. The default properties (line, area, point, and text) are applied to the newly created object. See column 10, lines 17-30. Mallgren further teaches taking the alignment of current objects to determine the position of the new object. See abstract. Compare to ***"determining locations . . .by adding a default avenue distance to the thickness of the placed object; and at the determined location. . .of the temporary gridline. . .between a plurality of objects"***.

Mallgren does not state that the selected object is dragged to the location while the gridline is displayed; however, he does disclose manipulating a control point which manipulates the new object's control point. It would have been obvious to a person of ordinary skill in the art at the time of the invention to drag an object to a location while providing gridlines as a guide because Mallgren's control point takes into account the horizontal and vertical alignment of a new object while trying to place the object precisely within a display. Since the control point is used to align the new objects with previously drawn objects, it would have been obvious to a person of ordinary skill in the art at the time of the invention that manipulation of a control point of a new object is similar to the manipulation of the actual object since it is an attempt to optimally place the new object in an aligned position. See column 3, lines 14-36.

In reference to claim 17, Mallgren teaches a variety of grid types including a stationary grid. See figure 5, lines 25-30.

In reference to claim 18, Mallgren discloses the use of gravity which is used to snap objects onto the grid. See column 6, lines 17-65 and column 7, lines 1-5.

In reference to claim 19, Mallgren teaches a procedure InitializePolar which

takes the grid center and computes the x and y components of the vector from the grid center to the mouse location. The grid center is also transformed into screen coordinates and assigned to the variable center. If angular gridding is on, then a radial line is computed which originates at the polar origin. See column 17, lines 49-62.

In reference to claim 20, Mallgren teaches computing a radial line that originates in the origin of an object such as a cube face. See columns 17-18.

In reference to claims 21 and 22, Mallgren teaches the final module, Graphic Virtual Machine 1703, is coupled to Pro Illustrator Editor 1702 and serves as a graphic engine for system 100. It contains the functions for the storage of various graphical objects as well as transformations performed on those objects. Graphic Virtual Machine 1703 sends its output to an imager 1705, which converts the data into an appropriate format for either a printing or display output 1706, 1707. In the alternative, Graphic Virtual Machine 1703 can output to Illustrator Frame 1704, which is responsible for the storage of object properties. Portions of the geometry algorithms are contained in Graphic Virtual Machine 1703.

In reference to claim 23, Mallgren teaches storing the geometry algorithms in the Graphic Virtual Machine. One of ordinary skill in the art at the time of the invention would not be hindered from storing any number of entries.

In reference to claim 25, Mallgren teaches an interactive computer graphics system for making precise drawings. Mallgren's computer-aided illustration system implements grids as a means to represent the geometry and provide a set of constraints. See column 5, lines 1-29. Mallgren's system teaches the following:

-A FrameObject variable within a Grid which contains information to display, edit, and print an illustration on a display.

-A FrameObject variable that contains top and bottom pointers which point to the top-most and bottom-most objects in a frame. These property pointers specify default properties that are applied to the newly created object. See column 10, lines 17-30. Compare to ***"while a selected object is being dragged in the drawing, searching the drawing . . .each side of the selected object;"***.

-A moving grid which moves in response to control point placement. See column 5, lines 31-48. In a moving grid, the origin takes the value of movingOrigin stored in the GridObject. See column 11, lines 30-34 and figure 21B. The default properties (line, area, point, and text) are applied to the newly created object. See column 10, lines 17-30. Mallgren further teaches taking the alignment of current objects to determine the position of the new object. See abstract. Mallgren teaches a procedure InitializePolar which takes the grid center and computes the x and y components of the vector from the grid center to the mouse location. The grid center is also transformed into screen coordinates and assigned to the variable center. If angular gridding is on, then a radial line is computed which originates at the polar origin. See column 17, lines 49-62. Compare to ***"determining locations . . .determining a location for an along temporary gridline that bisects the selected object and that runs parallel to the band being searched"***.

Mallgren's system teaches identifying objects in the proximity of a newly placed object and providing a movable grid that depicts the gridlines that are close to the object

being placed. Since Mallgren's system does this in an effort to enable users to easily create new objects in alignment with new objects, it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize a system that takes into account objects surrounding the object being placed in a drawing. See abstract. While Mallgren does not teach setting the distance at D for the first gridline or 2D for the second gridline, he does teach computing the x and y components of the vector from the grid center to the mouse location. He uses a radial line that is computed from the polar origin, thus it would have been obvious to use "2D" to calculate the distance for a second gridline since the computation for the radial line was already made and the second gridline would be placed next to the first gridline at the same distance (D). Mallgren does not state that the selected object is dragged to the location while the gridline is displayed; however, he does disclose manipulating a control point which manipulates the new object's control point. It would have been obvious to a person of ordinary skill in the art at the time of the invention to drag an object to a location while providing gridlines as a guide because Mallgren's control point takes into account the horizontal and vertical alignment of a new object while trying to place the object precisely within a display. Since the control point is used to align the new objects with previously drawn objects, it would have been obvious to a person of ordinary skill in the art at the time of the invention that manipulation of a control point of a new object is similar to the manipulation of the actual object since it is an attempt to optimally place the new object in an aligned position. See column 3, lines 14-36.

In reference to claim 27, Mallgren teaches the final module, Graphic Virtual Machine 1703, is coupled to Pro Illustrator Editor 1702 and serves as a graphic engine for system 100. It contains the functions for the storage of various graphical objects as well as transformations performed on those objects. Graphic Virtual Machine 1703 sends its output to an imager 1705, which converts the data into an appropriate format for either a printing or display output 1706, 1707. In the alternative, Graphic Virtual Machine 1703 can output to Illustrator Frame 1704, which is responsible for the storage of object properties. Portions of the geometry algorithms are contained in Graphic Virtual Machine 1703.

In reference to claim 28, Mallgren teaches storing the geometry algorithms in the Graphic Virtual Machine. One of ordinary skill in the art at the time of the invention would not be hindered from storing any number of entries.

In reference to claims 30 and 31, Mallgren teaches using a hot zone of a specified pixel radius while gridding a line. See column 16, lines 9-17.

In reference to claim 32, Mallgren teaches a variety of grid types including a stationary grid. See figure 5, lines 25-30.

In reference to claim 33, Mallgren discloses the use of gravity which is used to snap objects onto the grid. See column 6, lines 17-65 and column 7, lines 1-5.

In reference to claim 34, Mallgren teaches the final module, Graphic Virtual Machine 1703, is coupled to Pro Illustrator Editor 1702 and serves as a graphic engine for system 100. It contains the functions for the storage of various graphical objects as well as transformations performed on those objects. Graphic Virtual Machine 1703

sends its output to an imager 1705, which converts the data into an appropriate format for either a printing or display output 1706, 1707. In the alternative, Graphic Virtual Machine 1703 can output to Illustrator Frame 1704, which is responsible for the storage of object properties. Portions of the geometry algorithms are contained in Graphic Virtual Machine 1703.

In reference to claim 35, Mallgren teaches a procedure for computing a horizontal and vertical line. See column 17, lines 62-65.

Claims 36-41 are rejected under the same rationale as claims 1, 2, 4, 6, 9, and 10 respectively above.

Claim 42 is rejected under the same rationale as claim 16 above.

Claim 43 is rejected under the same rationale as claim 22 above.

In reference to claim 45, Mallgren discloses the use of gravity which is used to snap objects onto the grid. See column 6, lines 17-65 and column 7, lines 1-5.

Claim 46 is rejected under the same rationale as claim 1 above. Furthermore, it is implied that the system utilizes a grid calculator to determine the line likely to have a newly selected object aligned to it.

Claim 47 is rejected under the same rationale as claim 1 above.

Response to Arguments

5. Applicant's arguments filed 10/28/04 have been fully considered but they are not persuasive.

Applicant argues that Mallgren does not disclose displaying a gridline in response to the selected object being dragged to a location. Examiner respectfully disagrees. Mallgren

discloses that a FrameObject variable that contains top and bottom pointers which point to the top-most and bottom-most objects in a frame. These property pointers specify default properties that are applied to the newly created object. See column 10, lines 17-30. Using a coordinate system transformation from an orthogonal coordinate system such that the position of the object has a horizontal and vertical direction based on the first object and second object that creates a upper right and lower left coordinate. The user then tries to position the control point which controls the position of the new object. See columns 10-11. Mallgren does not state that the selected object is dragged to the location while the gridline is displayed; however, he does disclose manipulating a control point which manipulates the new object's control point. It would have been obvious to a person of ordinary skill in the art at the time of the invention to drag an object to a location while providing gridlines as a guide because Mallgren's control point takes into account the horizontal and vertical alignment of a new object while trying to place the object precisely within a display. Since the control point is used to align the new objects with previously drawn objects, it would have been obvious to a person of ordinary skill in the art at the time of the invention that manipulation of a control point of a new object is similar to the manipulation of the actual object since it is an attempt to optimally place the new object in an aligned position. See column 3, lines 14-36.

Applicant argues that Mallgren is limited to displaying and moving grids with the origin rather than individual gridlines. Examiner respectfully disagrees since Mallgren teaches using a vertical and horizontal gridline to align the new object. A moving grid which moves in response to control point placement. See column 5, lines 31-48. In a

moving grid, the origin takes the value of movingOrigin stored in the GridObject. See column 11, lines 30-34 and figure 21B.

Applicant argues that Mallgren does not disclose determining the placement of multiple gridlines, each aligned to one object, then displaying the select one based on the location of a dragged object. Examiner respectfully disagrees. Mallgren teaches using a vertical and horizontal gridline to align the new object. Mallgren further discloses a moving grid which moves in response to control point placement. See column 5, lines 31-48. In a moving grid, the origin takes the value of movingOrigin stored in the GridObject. See column 11, lines 30-34 and figure 21B. The cursor-control means for positioning a cursor on a display such that a new object can be placed in a manner that facilitates drawing in two dimensions and assisting in the editing of the illustration.

Applicant argues that Mallgren does not disclose an indication of a likely destination as the selected object is moved. Examiner disagrees since "organizing objects on a page into an aesthetic arrangement" is similar to aligning objects on a page because alignment can create an aesthetic arrangement.

In view of comments and rejection above, Examiner's rejections are maintained.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Takahashi et al. US 6,359,695

Isaacs et al. US 6,448,964

Joseph	US 5,873,106
Wilkinson	US 6,492,989
Beale	US 5,923,329

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rachna Singh whose telephone number is 571-272-4099. The examiner can normally be reached on M-F (8:30AM-6:00PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on 571-272-4090.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RS
4/14/05

JOSEPH FEILD
SUPERVISORY PATENT EXAMINER